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BRIEFER ARTICLES

THE TYPE SPECIES OF DANTHONIA

In a recent paper¹ by NELSON and MACBRIDE the generic name *Pentameris* Beauv. has been taken up for *Danthonia*, and our American species have been transferred with the corresponding new combinations. A quotation from this article explains the authors' reasons for these changes.

As shown by PIPER in his "Flora of Washington" (Contrib. Nat. Herb. 11:122), the name *Danthonia* is not available for the American species that have passed under that name. In choosing among the several later names that have been proposed, he selects *Merathrepta* Raf. in Seringe, Bull. Bot. 1: 221. 1830, apparently because the type species of the genus was *M. spicata*, an American species closely congeneric with ours. But will this fact permit our ignoring *Pentameris* Beauv. Agrost. 92. t. 18. 1812, the type species of which is accepted as a *Danthonia*, as that genus has until lately been understood?

I think the authors are justified in taking up *Pentameris* Beauv. in place of *Merathrepta* Raf., but I do not agree with them nor with PIPER in rejecting *Danthonia*, and I take this opportunity of recording my reasons for retaining the latter name. NELSON and MACBRIDE apparently have not investigated on its merits the validity of *Danthonia* for our species, because they say "as shown by PIPER." In the article cited, PIPER merely states: "The type of *Danthonia* DC. is *Festuca decumbens* L. (*Triodia decumbens* R. Br.), and the name cannot therefore be used in the current sense. *Merathrepta* has for its type *M. spicata* (L.) Raf. (*Avena spicata* L.)." With this statement I do not agree, and I will give my reasons. I believe that stability in botanical nomenclature is greatly aided by the adoption of the type method; that is, that for nomenclatorial purposes a genus shall be based upon a type species and a species upon a type specimen. The selection of the type species of a genus fixes the application of the generic name to the group containing the type species. It is easy to determine the type species if the genus is monotypic or if the author has indicated the type. In other cases it

¹ Western plant studies II. BOT. GAZ. 56:469. 1913.

may be easy to select the type from several species by some statement of the author or because one species was figured. There are cases in which a careful weighing of evidence is necessary to determine the species which the author had chiefly in mind when establishing the genus, that is, the type species. On account of the bearing it may have on the selection of type species, I give here, somewhat fully, the evidence which leads me to select *Avena spicata* L. instead of *Festuca decumbens* L. as the type species of *Danthonia* DC.

DECANDOLLE² establishes the genus *Danthonia* in a local flora and hence describes only the two species growing in France. These are (1) *D. decumbens*, based upon *Festuca decumbens*, and (2) *D. provincialis*, a change of name for *Avena calycina* Vill. In a note at the end of the generic description, and preceding the descriptions of the species, is the following: "On doit, outre les espèces décrites plus bas, rapporter à ce genre, 1°. *avena spicata* L. ou *avena glumosa* Michaux; 2°. *avena calicina* Lam. non Vill." It is evident from this note that the author included these two species in his idea of the genus *Danthonia*. The only reason for selecting *D. decumbens* for the type of the genus is that it is the first of the two species described. There are more and better reasons for selecting *Avena spicata* as the type. It is the first species mentioned and it represents better than *D. decumbens* the generic idea. In regard to the last point, it is to be noted that the generic description states that the lemma ("valve externe") is provided with an awn, sometimes long and twisted, sometimes rudimentary (à demi-avortée). DECANDOLLE differentiates *Danthonia* from *Melica* by the presence of the awn, and from *Avena* by the position of the awn, and by some other characters. It is evident that the author considered the awn to be one of the important distinguishing characters of his new genus. Three of the four species mentioned by DECANDOLLE are congeneric and possess a well marked awn. In the other species, *D. decumbens*, the awn is rudimentary ("les valves externes des balles ont au sommet une échancrure d'où part un rudiment d'arête") and hence this species, inasmuch as it departs from the general idea of the genus, should be excluded from consideration in the selection of the type. For the reasons given I favor selecting *Danthonia spicata* (L.) DC. as the type species of *Danthonia*, thus retaining this generic name for our American species. *Festuca decumbens* L. is generally recognized as generically distinct and has been made the type of *Sieglingia*. Some botanists are inclined to select the type from among those species that from the standpoint of the author of the work

² In Lam. and DC. Fl. Franç. 3:52. 1805.

are natives. Other things being equal, it is well to do this. But even by this method, the type would be *D. provincialis* DC., as this corresponds better to the generic description than does *D. decumbens*. This selection of the type also retains the name in the traditional sense.—A. S. HITCHCOCK, *U. S. Dept. Agriculture*.

A METHOD OF HANDLING MATERIAL TO BE IMBEDDED IN PARAFFINE

(WITH ONE FIGURE)

The account given by Mr. W. DUDGEON under the above title (BOT. GAZ. 57:70-72. 1914) has suggested that some might be interested in a similar, but simpler, method which I find useful.

The specimens to be imbedded in paraffine are strained from the killing solution into a small piece (2-4 inches square) of cotton chiffon held in bag form. The corners and sides are then drawn together and tied with a piece of sewing thread (about no. 50), making such a bag as is represented in fig. 1. All surplus chiffon is cut away and the bag is put for washing in a dish into which



FIG. 1

a rubber tube brings water slowly from a faucet. Any number of bags can be washed in one dish, their contents being labeled by a small slip of paper inclosed in the bag with the specimens. The end of the thread with which the bag is tied is left a few inches long, and by this the tiny bags can be lifted from one solution to another until the specimens are ready to be put into paraffine. The end of the thread left hanging over the top of the bottle does not interfere with replacing the stopper. When the specimens are ready for the paraffine, the bag is cut off just below the thread tie. It spreads open instantly as a flat piece of chiffon, from which the specimens can easily be transferred to the paraffine.

The chiffon found best is the thin cotton quality usually sold at the veiling counter of department stores at 50 cents a yard; the meshes are 0.25-0.33 mm. in diameter. The material is so thin that the specimens are as good as free in the solution jars, yet any number can be handled with the minimum of labor and time.—ELDA R. WALKER, *University of Nebraska*.